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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,216	04/10/2006	Ryosuke Ito	1503-72984	1363

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EXAMINER	
CUEVAS, PEDRO J	
ART UNIT	PAPER NUMBER
2834	
MAIL DATE	DELIVERY MODE
07/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/534,216	ITO ET AL.	
	Examiner	Art Unit	
	Pedro J. Cuevas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/10/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-8 in the reply filed on June 4, 2007 is acknowledged.

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,581,168 A to Rozman et al. in view of European Patent Application No. 1 340 910 A1 to Cavaliere.

Rozman et al. disclose the construction of a starter/generator system with DC link current control, comprising:

a permanent magnet (12) type generator for generating in connection with the rotation shaft (18) of a rotating prime mover (21);

a start assistance unit (60_{a-c}) for switching the generator to a motor and performing a start assisting rotation which rotates the rotation shaft in the forward direction; and

a generation restoring unit (70) for restoring the motor to the generator when the start assisting rotation by the start assisting unit is suspended.

However, it fails to disclose rotation wing, which is rotated in the forward direction by wind.

Cavaliere disclose the construction of an aerogenerator with axial flux permanent magnets and regulation thereof, comprising a permanent magnet generator (4) for generating in connection with the rotation shaft of a rotation wing (5), which is rotated in the forward direction by wind for the purpose of utilizing the mechanical power of the wind to generate electrical energy.

It would have been obvious to one skilled in the art at the time the invention was made to use the rotating wing disclosed by Cavaliere on the starter/generator system with DC link current control disclosed by Rozman et al. for the purpose of utilizing the mechanical power of the wind to generate electrical energy.

5. With regards to claim 2, Rozman et al. disclose said start assistance unit comprises a storage battery (74) as a power supply for performing the start assisting rotation.

6. With regards to claim 7, Rozman et al. disclose the number of rotations of being counted using pulsating current of output voltage from a generator when the wind is weak and using pulsating current of the charging current (Figure 2).

7. Claims 3-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,581,168 A to Rozman et al. in view of European Patent Application No. 1 340 910 A1 to Cavaliere as applied to claims 1-2 and 7 above, and further in view of U.S. Patent No. 3,388,305 to O. J. M. Smith.

Rozman et al. in view of Cavaliere disclose the construction of a starter/generator system with DC link current control as disclosed above.

However, it fails to disclose a start assisting rotation time determining unit for determining when said start assistance unit performs the start assisting rotation.

O. J. M. Smith disclose the construction of a system, apparatus and method for improving stability of synchronous machines, comprising rotation time determining unit (shaft frequency Timer A) for the purpose of counting positive time when the set of breakers (17) is open and the frequency is too high if the synchronous machine (11) is a generator, or when the frequency is too low if the synchronous machine (11) is a motor.

It would have been obvious to one skilled in the art at the time the invention was made to use the timer disclosed by O. J. M. Smith on the starter/generator system with DC link current control disclosed by Rozman et al. in view of Cavaliere for the purpose of counting positive time when the frequency of a synchronous machine is high (generator mode), or when the frequency is low (motor mode).

8. With regards to claim 4, Rozman et al. disclose a wind velocity measuring unit (150), and O. J. M. Smith disclose said start assisting rotation time determining unit operates said start assistance unit only during a time counting period of said first time counting unit if wind velocity

measured by said start assisting rotation time determining unit is lower than a predetermined velocity.

9. With regards to claim 5, O. J. M. Smith disclose a second time counting unit (Timer B), wherein after the time counting period of said first time counting unit is over, said start assisting rotation time determining unit starts time counting by said second time counting unit, and after the time counting period of said second time counting unit is over, said start assisting rotation time determining unit starts wind velocity time counting by said wind velocity measuring unit.

10. With regards to claim 6, O. J. M. Smith disclose the time counting period of said first time counting unit is shorter than the time counting period of said second time counting unit.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the time counting period of said first time counting unit shorter than the time counting period of said second time counting unit, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. With regards to claim 8, Rozman et al. in view of Cavaliere in view of O. J. M. Smith disclose the method of operating a starter/generator system with DC link current control as disclosed above, comprising the steps of:

operating a start assisting function when the wind velocity measuring unit detects a wind velocity lower than a predetermined velocity;

continuing operation of the start assisting function only during a time counting period of the first time counting unit;

suspending the operation of the start assisting function during a time counting period of the second time counting unit and switching the motor to the generator by the switch unit;

repeating the start assisting rotation process and generator restoration process;

monitoring whether the output voltage from a coil stator of the generator is equal to or more than a predetermined voltage during the repetition process; and

charging a battery with the output voltage of the generator when having detected a voltage higher than the predetermined voltage in the voltage monitoring process.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pedro J. Cuevas
June 22, 2007

DARREN SCHUBERG
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